

# PROGRAM facts

U.S. DEPARTMENT OF ENERGY  
NATIONAL ENERGY TECHNOLOGY LABORATORY

Power Systems  
Advanced Research

09/2000

## SMALL BUSINESS INNOVATION RESEARCH & SMALL BUSINESS TECHNOLOGY TRANSFER

### CONTACTS

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Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) makes competitive grants to small businesses for technology-oriented research projects that crosscut all fossil energy areas.

The programs were created by the Small Business Innovation Development Act of 1982 and the Small Business Research and Development Enhancement Act of 1992. Both Acts have been reauthorized and reserve a portion of extramural R&D budgets for small businesses.

The two programs, SBIR and STTR, are very similar. The main difference is in STTR, the small business applicant must collaborate with a research institution (most often a National Lab or University) that would serve as a sub-contractor. The small business must also perform at least 40 percent of the work itself and the research institution at least 30 percent of the work. Other differences include the time duration for Phase I (nine months for STTR, six and one-half months for SBIR) and the spending limits for the two phases (for STTR, \$100,000 and \$500,000 for Phase I and II, respectively; for SBIR, \$100,000 and \$750,000).

### Goals

- To increase private sector commercialization of technology developed through Federal R&D
- To increase small business participation in Federal R&D
- To stimulate technological innovation by small businesses

### Success Stories

*Glass Ceramic Construction Tiles from Coal-Fired Boiler Ash*, **Vortec Corporation**, Collegeville, Pennsylvania, has partnered with Ormet Corporation, Welko, Hoogovens, Mitsubishi CEC, and Terradyne to commercialize glass ceramic construction tiles using coal-fired boiler ash. Vortec Corporation has accumulated over \$20 million in sales over the past 5 years. For more information contact Mary Ashbaugh at [mary.ashbaugh@netl.doe.gov](mailto:mary.ashbaugh@netl.doe.gov).



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*Non-Toxic Additives for Improved Fabric Filter Performance,*

**ADA Technologies**, Englewood, Colorado, has partnered with Earth Sciences in Golden, Colorado to commercialize non-toxic additives. The technology was initially funded by the Department of Energy in 1993 with commercialization beginning in 1996. They have now accumulated over \$2.6 million in non-Federal sales and over \$5 million in external development funding. For more information contact Thomas Brown at [thomas.brown@netl.doe.gov](mailto:thomas.brown@netl.doe.gov).

*An Instrument for In-Situ Analysis of Carbon Fly Ash,*

**Advanced Fuel Research**, East Hartford, Connecticut, has partnered with DOE, ABB, Nalco Fuel, Dynamotive, Phillip Morris, and Brain C. (a Japanese Industrial Group) to commercialize a hydrogen process that they developed with co-funding from the DOE's EE and FE programs. Thus far, they have accumulated over \$2.6 million in non-federal sales and over \$2.4 million in external development funding. For more information contact Charles Schmidt at [charles.schmidt@netl.doe.gov](mailto:charles.schmidt@netl.doe.gov).

## PHASE I FY-00

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### OIL AND GAS TECHNOLOGIES

#### **4TH WAVE IMAGING CORPORATION — LAGUNA BEACH, CALIFORNIA**

*Enhanced, Three-Dimensional, Multicomponent Seismic Imaging for Lithology and Fluid Characterization*

#### **COMPACT MEMBRANE SYSTEMS, INC. — WILMINGTON, DELAWARE**

*Novel Membranes for Upgrading Natural Gas*

#### **TEMPRESS TECHNOLOGIES, INC. — SOUTH KENT, WASHINGTON**

*Real-Time Pore Pressure Prediction Ahead of the Bit Using a Suction Pulse Seismic Source*

### ADVANCED POWER SYSTEMS

#### **CFD RESEARCH CORPORATION — HUNTSVILLE, ALABAMA**

*Development of a Topping Combustor for Advanced Pressurized Fluidized Bed Combustion Gas Turbines*

#### **ENSPEC ENGINEERING, INC. — BERE A, OHIO**

*Advanced Slurry-Phase Transport System for Pressurized, Fluidized Bed Combustion Ash-Letdown*

### MATERIALS RESEARCH FOR FOSSIL ENERGY APPLICATIONS

#### **CERAMATEC, INC. — SALT LAKE CITY, UTAH**

*Compliant Metal Interconnects for Solid Oxide Fuel Cells*

#### **MATERIALS & ELECTROCHEMICAL RESEARCH (MER) CORP. — TUCSON, ARIZONA**

*Novel Joining Technique for Oxide-Dispersion Strengthened Iron Aluminide Alloys*

#### **MATERIAL METHODS — FOREST, CALIFORNIA**

*Nanostructured Thermal Barrier Coatings*

#### **MATERIALS AND SYSTEMS RESEARCH, INC — SALT LAKE CITY, UTAH**

*A Metallic Interconnect for Intermediate Temperature, Planar, Solid Oxide Fuel Cells*

#### **POWDERMET, INC. — SUN VALLEY, CALIFORNIA**

*Nanoengineered Intermetallics for Energy System*

#### **TECHNOLOGY MANAGEMENT, INC.— CLEVELAND, OHIO**

*Alternative Interconnect Materials for Improved Solid Oxide Fuel Cell Performance*

#### **TOUCHSTONE RESEARCH LABORATORY, LTD. — TRIAD ELP HIA, WEST VIRGINIA**

*Tailorable, Inexpensive Carbon Foam Electrodes for High-Efficiency Fuel Cell and Electrochemical Applications*

#### **WRIGHT MATERIALS RESEARCH COMPANY — BEAVERCREEK, OHIO**

*A Rapid-Oxidation Stabilization Technique for the Post-Processing of Carbon Foams and Carbon Materials*

### HYDROGEN AND FUELS TECHNOLOGIES

#### **APPLIED THIN FILMS, INC. — EVANSTON, ILLINOIS**

*Utilization of Hydrocarbon Fuels in Low-Temperature Solid Oxide Fuel Cells*

#### **EXPORTTECH COMPANY, INC.— NEW KENSINGTON, PENNSYLVANIA**

*Magnetic Separation of Fischer-Tropsch Catalyst from Wax*

#### **HYDROGEN MICROPLASMATRON TECHNOLOGIES, LLC — CAMBRIDGE, MASSACHUSETTS**

*Fast-Response Plasmatron Fuel Converter for Diesel Reforming*

#### **ITN ENERGY SYSTEMS, INC. — WHEAT RIDGE, COLORADO**

*Direct-Oxidation Solid Oxide Fuel Cell (SOFC) Anodes*

#### **NANOMATERIALS RESEARCH CORPORATION — LONGMONT, COLORADO**

*Synthesis of Hydrogen from Hydrocarbons Using Electrically Activated Catalysts*